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Operation of data and MC processing workflows on the Tier-1 level of the CMS computing infrastructure

Contributed to be given at CHEP2010: International Conference on Computing in High Energy and Nuclear Physics 2010, 18-22 Oct 2010, Taipei (Taiwan) The talk is pending decision by conf. organizers.

Abstract

The first tier of the CMS computing infrastructure comprises the majority of the central processing resources of the CMS experiment. The 7 Tier-1 sites archive the proton-proton collisions of the LHC recorded and initially processed at CERN. The sites provide access to all recorded and simulated data for the following tiers via WAN transfers. All central data processing workflows are executed on this level. They contain re-reconstruction and skimming workflows of collision data as well as reprocessing of simulated data to adapt to changing detector condition and alignment scenarios. This talk will summarize the operation of the dedicated CMS processing infrastructure on the Tier-1 level. The Tier-1 workflows are described in detail. The operational optimization to maximize resource usage is described. In particular the variation of different workflows during the data taking period 2010, their efficiencies and latencies as well as their impact on the timely delivery of physics results is discussed and lessons are drawn from this experience.

Files

Bibliography

CMS groups

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